

WHAT IS CLAIMED IS:

1. An objective-lens driving apparatus,  
comprising:

an objective lens for light-converging light  
on the recording surface of an optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted  
onto said lens holder,

plural supporting members for supporting a  
movable unit in a movable manner in a focusing  
direction and a tracking direction with respect to a  
fixed unit, said movable unit including said lens  
holder,

a yoke member including a magnetic substance,  
and

plural permanent magnets arranged in parallel  
to said tracking direction and on both ends of said  
movable unit, wherein,

on one side of said movable unit parallel to  
said tracking direction, said permanent magnets are  
arranged on both ends of said movable unit, and

on the other side of said movable unit  
parallel to said tracking direction, said permanent  
magnets is arranged at a position closer to the center  
of said movable unit.

2. An objective-lens driving apparatus,  
comprising:

an objective lens for light-converging light  
on the recording surface of an optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted  
onto said lens holder,

plural supporting members for supporting a  
movable unit in a movable manner in a focusing  
direction and a tracking direction with respect to a  
fixed unit, said movable unit including said lens  
holder,

a yoke member including a magnetic substance,  
and

plural permanent magnets arranged in parallel  
to said tracking direction and on both ends of said  
movable unit, wherein,

on one side of said movable unit parallel to  
said tracking direction, two of said permanent magnets  
are arranged on both ends of said movable unit, and,

on the other side of said movable unit  
parallel to said tracking direction, said permanent  
magnet is arranged at the center of said movable unit.

3. An objective-lens driving apparatus,  
comprising:

an objective lens for light-converging light  
on the recording surface of an optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted onto said lens holder,

plural supporting members for supporting a movable unit in a movable manner in a focusing direction and a tracking direction with respect to a fixed unit, said movable unit including said lens holder,

a yoke member including a magnetic substance, and

plural permanent magnets arranged in parallel to said tracking direction and on both ends of said movable unit, wherein,

on one side of said movable unit parallel to said tracking direction, said permanent magnets are arranged such that a magnetic-flux density therefrom becomes larger on both ends of said focusing coil, and

on the other side of said movable unit parallel to said tracking direction, said permanent magnets is located such that a magnetic-flux density therefrom will become larger at a position closer to the center of said focusing coil.

4. An objective-lens driving apparatus, comprising:

an objective lens for light-converging light on the recording surface of an optical disk,

a lens holder for holding said objective lens,

a focusing coil and tracking coils mounted

onto said lens holder,

plural supporting members for supporting a movable unit in a movable manner in a focusing direction and a tracking direction with respect to a fixed unit, said movable unit including said lens holder,

a yoke member including a magnetic substance, and

plural permanent magnets arranged in parallel to said tracking direction and on both ends of said movable unit, wherein,

on one side of said movable unit parallel to said tracking direction, said permanent magnets are arranged in a manner of confronting coil-wound portions positioned at the outer sides of said tracking coils, and

on the other side of said movable unit parallel to said tracking direction, said permanent magnets is arranged in a manner of confronting a coil-wound portion positioned at the inner side of said tracking coils.

5. An optical disk apparatus for performing the reproduction of information from the recording surface of an optical disk by using an objective-lens driving apparatus,

said objective-lens driving apparatus, comprising:

an objective lens for light-converging light

on said recording surface of said optical disk,

a lens holder for holding said objective lens,

a focusing coil and tracking coils mounted onto said lens holder,

plural supporting members for supporting a movable unit in a movable manner in a focusing direction and a tracking direction with respect to a fixed unit, said movable unit including said lens holder,

a yoke member including a magnetic substance, and

plural permanent magnets arranged in parallel to said tracking direction and on both sides of said movable unit, wherein

on one side of said movable unit parallel to said tracking direction, said permanent magnets are arranged on both ends of said movable unit, and

on the other side of said movable unit parallel to said tracking direction, said permanent magnets is arranged at a position closer to the center of said movable unit.

6. An optical disk apparatus for performing the reproduction of information from the recording surface of an optical disk by using an objective-lens driving apparatus,

said objective-lens driving apparatus, comprising:

an objective lens for light-converging light  
on said recording surface of said optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted  
onto said lens holder,

plural supporting members for supporting a  
movable unit in a movable manner in a focusing  
direction and a tracking direction with respect to a  
fixed unit, said movable unit including said lens  
holder,

a yoke member including a magnetic substance,  
and

plural permanent magnets arranged in parallel  
to said tracking direction and on both ends of said  
movable unit, wherein,

on one side of said movable unit parallel to  
said tracking direction, two of said permanent magnets  
are arranged on both ends of said movable unit, and

on the other side of said movable unit  
parallel to said tracking direction, said permanent  
magnet is arranged at the center of said movable unit.

7. An optical disk apparatus for performing the  
reproduction of information from the recording surface  
of an optical disk by using an objective-lens driving  
apparatus,

said objective-lens driving apparatus,  
comprising:

an objective lens for light-converging light  
on said recording surface of said optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted  
onto said lens holder,

plural supporting members for supporting a  
movable unit in a movable manner in a focusing  
direction and a tracking direction with respect to a  
fixed unit, said movable unit including said lens  
holder,

a yoke member including a magnetic substance,  
and

plural permanent magnets arranged in parallel  
to said tracking direction and on both ends of said  
movable unit, wherein,

on one side of said movable unit parallel to  
said tracking direction, said permanent magnets are  
arranged such that a magnetic-flux density therefrom  
becomes larger on both ends of said focusing coil, and

on the other side of said movable unit  
parallel to said tracking direction, said permanent  
magnets is arranged such that a magnetic-flux density  
therefrom becomes larger at a position closer to the  
center of said focusing coil.

8. An optical disk apparatus for performing the  
reproduction of information from the recording surface  
of an optical disk by using an objective-lens driving

apparatus,

said objective-lens driving apparatus,  
comprising:

an objective lens for light-converging light  
on said recording surface of said optical disk,

a lens holder for holding said objective  
lens,

a focusing coil and tracking coils mounted  
onto said lens holder,

plural supporting members for supporting a  
movable unit in a movable manner in a focusing  
direction and a tracking direction with respect to a  
fixed unit, said movable unit including said lens  
holder,

a yoke member including a magnetic substance,  
and

plural permanent magnets arranged in parallel  
to said tracking direction and on both ends of said  
movable unit, wherein,

on one side of said movable unit parallel to  
said tracking direction, said permanent magnets are  
arranged in a manner of confronting coil-wound portions  
positioned at the outer sides of said tracking coils,  
and

on the other side of said movable unit  
parallel to said tracking direction, said permanent  
magnets is arranged in a manner of confronting a coil-  
wound portion positioned at the inner side of said



tracking coils.